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EXAMINER

EL HADY, NABIL M

ART UNIT PAPER NUMBER

2154

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/700,175

Applicant(s)

GHANEA-HERCOCK ET AL.

Examiner

Nabil M El-Hady

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/12/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 29-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 29-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1-35 are pending in this application. Claims 21-28 are cancelled. Claims 30-35 are new. Claims 1-20, and 29-35 are presented for examination.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following phrases are not clearly understood and render the claim vague:

a) "each of the at least one said second program" , it is unclear if what is meant is "each of said at least one second program".

4. Claims 1-4, 6, 11, 12, 29, 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Aridor et al. (Agent Design Patterns: Elements of Agent Application Design, Proceedings of the 2nd International Conference on Autonomous Agents, 9-13 May 1998), hereafter "Aridor".

5. As to claim 1, AAPA discloses the invention substantially as claimed including a remote computing system comprising: a first computer; and at least one second computer coupled thereto via a communications link; said first computer being programmed to transmit, to said second computer via said link, data defining a computing team for performing a computing task, and said second computer being programmed to receive said data (page 1, lines 5-30);

6. AAPA does not explicitly disclose executing, in parallel, a first and at least one second program. Aridor, on the other hand, discloses executing, in parallel, a first and a at least one second program in the second computer, and in which each of said second program comprises code for performing at least a part of said task, and for communicating with said first program; and said first program is a co-ordinating program comprising code for communicating with said first computer, and for communicating with and co-ordinating each said second program (sec. 3.2 Task Patterns, Plan pattern, and Master-Slave Pattern). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of AAPA and Aridor because Aridor's new patterns for computing teams (mobile agents) would simply make the applications more flexible, understandable, and reusable (see, Aridor's abstract).

7. As to claim 29, the claim is rejected for the same reasons as claim 1 above. In addition, Aridor discloses a method of remote computing comprising supplying a plurality of parallel processing task programs from a first computer to at least one second computer (sec. 3.2, Task patterns); supplying a co-ordinating program from said first computer to said second computer; and co-ordinating operation of the task programs through the coordinating program (sec. 3.3, Interaction Patterns).

8. As to claim 30, the claim is rejected for the same reasons as claims 1 and 29 above.

9. As to claims 2-4, 6, 31, and 32, Aridor discloses said first program comprises code for transmitting said first program to another said computer, in response to a predetermined criterion (3.1, Traveling Patterns), and is arranged to determine one of a plurality of said

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computers to move to (3.1, Traveling Patterns), and to store a sequence defining an order of preference of said computers to move to (3.1, Traveling Patterns).

10. As to claims 11 and 12, AAPA and Aridor discloses the first program is arranged to be capable of removing each of said at least one second program from the second computer and to terminate execution thereof (p 1, line 6 in AAPA for the first program and Task Patterns an Interaction Patterns in Aridor for each of the second program), and the second programs each comprise code for causing the second computer to remove and terminate themselves, and are arranged to do so in the absence of a signal from the first program under predetermined conditions (p 1, line 6 in AAPA for the first program and Task Patterns an Interaction Patterns in Aridor for each of the second program).

11. Claims 13 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Aridor et al. (Agent Design Patterns: Elements of Agent Application Design, Proceedings of the 2nd International Conference on Autonomous Agents, 9-13 May 1998), hereafter "Aridor", and further in view of Berghoff et al. (Agent-based configuration management of distributed applications, IEEE 1996), hereafter "Berghoff".

12. Berghoff et al. is cited by the applicant in IDS paper No. 6 filed 6/1/2001.

13. As to claims 13 and 35, the claims are rejected for the same reasons as claims 1, 21, and 30 above. In addition, Berghoff discloses the first computer is programmed to access plural said second computers; to determine, for each, whether it will support said computing team and,

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where a second computer will not support a said team, to transmit thereto, and cause to execute thereon, a support program to adapt said second computer to support said teams. Berghoff discloses sending a stationary agent as a supporting environment to the mobile program executed on the second computer (p 55, left column, 2nd paragraph; and right column 3rd paragraph).

14. Claims 5, 7, 8, 14-20, 33, and 34, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Aridor et al. (Agent Design Patterns: Elements of Agent Application Design, Proceedings of the 2nd International Conference on Autonomous Agents, 9-13 May 1998), hereafter "Aridor", and further in view of Kozuka (US 6,289,394).

15. As to claims 5, 7, 8, and 34, Aridor's Task Patterns for agents would read on applicant disclosed limitations of monitoring code for monitoring the status of said second computer, and control each of said at least one second program in dependence upon said monitoring (Master-Slave; Plan, Fig. 2; and Facilitator Pattern, p 110, left column, 3rd paragraph), and control the number of said second programs in dependence upon said monitoring (creating other agents as slaves). Moreover, Kozuka, discloses agent monitoring and controlling other agents (abstract).). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of AAPA, Aridor, and Kozuka because Kozuka's monitoring and controlling capability of the mobile program would simply make the applications more flexible, understandable, and reusable (see, Aridor's abstract).

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16. As to claims 14, 15, and 33, the claims are rejected for the same reasons as claims 1, 5, 7, 8, 30-32 above. In addition, Aridor discloses the first computer is programmed to transmit, to a plurality of said second computers via said link, data defining a monitoring program comprising monitoring code for monitoring a respective said second computer, and code for communicating with said first computer (Task Patterns, Master-Slave; Plan, Fig. 2; and Facilitator Pattern, p 110, left column, 3rd paragraph in Aridor); and said first computer is arranged to receive status data from the or each said monitoring program and to control the operation of said the or each said team in dependence thereon (Kozuka's abstract).

17. As to claims 16-20, the claims are rejected for the same reasons as claims 1, 5, 7, 8, and 14 above. In addition, it would have been obvious to one skilled in the art at the time of the invention to tailor a monitoring code to specifically monitor the memory, the utilization of the processor, the storage capacity, use of an input device, or a battery of said second computer.

18. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Aridor et al. (Agent Design Patterns: Elements of Agent Application Design, Proceedings of the 2nd International Conference on Autonomous Agents, 9-13 May 1998), hereafter "Aridor", and further in view of Objectspace Inc, Objectspace Voyager core Package Technical Overview, 12/1997), hereafter "Objectspace".

19. As to claims 9 and 10, Aridor discloses said second program comprises code for transmitting said first program to another said computer (Messenger Pattern, p 110, left column, 2nd paragraph). Aridor does not explicitly disclose a move instruction from said first program. Objectspace, however, discloses a move instruction (p 10).

20. Applicant's arguments filed 11/12/2004 have been fully considered but they are not persuasive. Therefore the rejection of claims 1-20 is maintained.

21. In the remarks, applicants argued in substance that (1), the combination of references fails to teach that each of the at least second program comprises code for performing at least part of a task, (2) failed to teach co-ordinating operation of the task programs through the first program on the remote computer, (3) failed to result in communication with the first computer.

22. Examiner respectfully traverses applicants' remarks.

23. As to point (1), Aridor discloses in the 1st paragraph of sec. 3.2 that a given task can be accomplished either by a single agent or by multiple agents working in parallel.

24. As to point (2), Aridor discloses in the 1st and 3rd paragraphs of sec. 3.2 that Plan class of task Patterns organize multiple task to be performed by multiple agents and let them cooperate to accomplish the task. Aridor also discloses in the 1st paragraph of sec. 3.3 that Interaction Patterns facilitate and co-ordinate the interaction between agents.

25. As to point (3), AAPA discloses that the slave agent (in the second computer) may report back to the master agent (in the first computer), spec. page 2, lines 14-14.

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nabil M El-Hady whose telephone number is (571) 272-3963. The examiner can normally be reached on 9:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 1, 2005


Nabil El-Hady, Ph.D, M.B.A.
Primary Patent Examiner
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